DOE F 1325.8 e Electronic Form Approved by CGIR - 01/20/95
(8-89)

United States Government **Department of Energy**

Bonneville Power Administration

memorandum

DATE: August 11, 2003

REPLY TO ATTN OF: KEP-4

SUBJECT: Supplement Analysis for the Transmission System Vegetation Management Program FEIS (DOE/EIS-0285/SA-170 Rocky Reach – Maple Valley No. 1 from 90/3 to 113/3)

TO: Don Atkinson
Natural Resource Specialist - TFN/SNOHOMISH

Proposed Action: Vegetation Management for portion of the Rocky Reach – Maple Valley No. 1 transmission line, from 90/3 to 113/3

Location: Project location is within King County, Washington.

Proposed by: Bonneville Power Administration (BPA).

Description of the Proposal: BPA proposes to clear targeted vegetation within the right-of-way. BPA proposes to clear along access roads and remove danger trees outside the right-of-way where appropriate. Project is to remove vegetation that may impede the operation and maintenance of the subject transmission line. See Section 1.1 through 1.4 of the attached checklists for a complete description of the proposed action.

Analysis: Please see the attached checklist for the resources present. Applicable findings and mitigation measures are discussed below.

Planning Steps:

1. Identify facility and the vegetation management need.

Work will take place along a portion of the Rocky Reach – Maple Valley No. 1 transmission line. The transmission line easement is from 150 to 300 feet. Total project area consists of approximately 426 acres along the transmission line, 24 miles of access roads and 105 tower sites.

Tall growing vegetation of the types listed in Section 1.2 of the attached checklist are present in the ROW and will soon pose a hazard to the lines. Project involves clearing tall growing vegetation and treatment of the associated stumps and re-spouts with approved herbicides to ensure that the roots are killed.

Vegetation on access roads and around tower sites that impede the operation and maintenance of the transmission line will also be cleared and/or treated.

All off right-of-way trees (danger trees) that are marked as potentially unstable, or trees that are identified that will fall within the minimum approach distance or into the safety zone of the power line will be cut as part of this project. Danger trees may be treated to prevent re-sprouting.

A follow-up chemical foliar treatment is scheduled within the next growing season. Control methods and requirements, as outlined in Sections 3 of the attached Vegetation Management Checklist, will be employed to mitigate any environmental effects to natural resources or to Threatened or Endangered species habitat. This vegetation management program is designed to provide a 3-5 maintenance free interval after the follow-up treatment.

2. Identify surrounding land use and landowners/managers and any mitigation.

The subject corridor traverses a mixture of private and public owned lands. Mostly rural residential, grazing and private forest lands, Washington Department of Natural Resources and the Mt. Baker-Snoqualmie National Forest lands.

A letter will be sent by mail to notify landowners in proximity to the project transmission lines prior to vegetation control activities. Personal contact along with door hangers may also be employed to notify landowners. The Prescription / Cut Sheets will be modified as needed based on input received during the project. A listing of current Landowner Agreements along the ROW can be found in Section 2.4 of the attached checklist.

Timing and treatments standards within the jurisdictional boundaries of the WA. Dept of Natural Resources lands will be coordinated with appropriate DNR personal.

All project areas that fall within the jurisdictional boundaries of the Mt Baker-Snoqualmie National Forest, the Project Manger is to coordinate with appropriate forest service personal and apply forest service specific mitigation measures. No herbicides are to be used within the boundaries of the Mt. Baker-Snoqualmie National Forest.

3. Identify natural resources and any mitigation.

Section 3 of the attached checklist identifies the natural resources present in the area of the proposed work. The following cites resources found with applicable mitigation measures:

Riparian Habitat:

Includes all wetlands, streams, creeks and ponds meeting the definition of riparian habitat. Riparian areas were identified which may include essential fish habitat. See Section 3.1 of the attached checklist for a complete listing of identified water resources.

Riparian Habitat Mitigation:

- County or private lands, within 30.5 m (100 ft.) of a stream or open water. Available: all manual, spot and localized herbicide, and biological treatments, except grazing. On slopes less than 20% there will be no ground-disturbing mechanical methods employed within 35 ft. of the stream or wetland. On slopes greater than 20% there will be no ground-disturbing mechanical methods employed within the buffer.

- Within 50 ft. to edge of surface water only cut-stump and localized or spot chemical treatments using practically non-toxic to slightly toxic formulations of glyphosate, triclopyr (TEA) formulation, imazapyr, and metsulfuron-methyl (Escort). Highly toxic to very highly toxic herbicides (to aquatic species) or those herbicides containing a groundwater or surface water label advisory will not be used in this zone. Triclopyr (Garlon 4) may be used only more than 100 ft. from streams or water.

Irrigation Source, Wells, or Springs:

Includes water sources, springs, wells and other sensitive lands within 100 ft. of sensitive riparian areas or water sources. See Section 3.2 of the attached checklist for a complete listing.

Irrigation Source, Wells, or Springs Mitigation:

- Herbicides will not be applied within 100 ft. of any irrigation water source, well, spring, or other sensitive riparian area. Only hand cutting methods are permitted within this buffer. Herbicide use is limited to those that do not have ground or surface water advisories between 100 and 165 ft of wellhead. Approved herbicides include: glyphosate, imazapyr, tryclopyr, Escort.

T & E Species:

Section 3.3 of the attached checklist presents any Threatened or Endangered Species identified in the area of the proposed work. See attached USFWS species list.

T & E Species Mitigation:

- **Bull Trout:** See checklist for identified critical habitat. No herbicides will be applied within 400 ft. of the waters edge of any T&E or Essential Fish Habitat listed water bodies. On slopes less than 20%, there will be no disturbance with 35 ft. of the stream or water source. On slopes greater than 20%, there will be no disturbance within 400 ft of the stream or water source. Project Manager is to select cut, top or trim trees within the buffer limits to maintain stream shade producing vegetation.
- **Bald Eagle Nesting Areas:** During nesting season activities with ¼ mile of the known site will be suspended from January 1st to August 15th. If maintenance activates are required within the buffer during this period then the Wildlife Species Coordinator will be contacted for directions on how to proceed. If perching birds or large nest (more than 24 inches in diameter) is seen within the project area, especially around or on the transmission towers, discontinue the activity and contact the Regional Environmental Protection Specialist and the USFWS.
- **Marbled Murrelet:** See checklist for identified critical habitat. Mitigation measures are as follows:
    - No tree greater than 32 inches at breast height is to be removed. If a tree needing removal is greater than 32 inches diameter at breast height and has suitable nest tree characteristics, initiate consultation with the USFWS and Forest Service as warranted.

- During core breeding season, from April 1-August 5, do not carry out maintenance activities that produce noise levels above ambient noise levels, within 0.25 miles of known habitat or occupancy.
- During late breeding season, from August 6 –September 15, do not carry out maintenance activities using motorized equipment within 0.25 miles of habitat or occupancy within two hours after sunrise or within two hours before sunset.

- **Northern Spotted Owl:** See checklist for identified critical habitat. Mitigation measures are as follows:
  - Where opportunity exists, suspend vegetation management activities with 0.25 miles of spotted owl habitat between March 1 and June 30, unless the owls are shown noted to be nesting.
  - Examine any large trees that need to be removed in Spotted Owl habitat for evidence of owls. If a tree has evidence of owl nesting activity, conduct consultation with the USFWS and the Forest Service if warranted.
  - *In case of an emergency danger tree removal---a tree suddenly becoming an imminent threat to the line, posing a danger to life and property*---immediately examine the felled tree for evidence of nesting. If such evidence is found, start emergency consultation with USFWS and the Forest Service if warranted. If the situation occurs during off-duty hours, conduct after-the-fact emergency consultation the next business day.

Cultural Resources:

Vegetation management typically does not involve ground-disturbing activities, and no known cultural resources are present along the ROW.

Cultural Resources Mitigation:

If a site is discovered during the course of vegetation control, work will be stopped in the vicinity and the local tribe will be contacted as well as the BPA Environmental Specialist.

Steep Slopes:

See Section 3.7 of the attached checklist for areas having a steep slope requiring vegetation management. Manual, herbicide, and biological treatments are available for treatment. Ground disturbing mechanical equipment is not allowed to clear on slopes greater than 20% except for treatment on access roads and around structures.

Spanned Canyons:

Includes areas in the corridor with a greater than 125 ft. vertical distance between the ground surface and transmission lines. Removal is periodically required of individual trees that could encroach into the transmission corridor danger zone. See Section 3.8 of the attached checklist for a listing of such areas along the ROW.

4. Determine vegetation control and debris disposal methods.

No herbicides will be applied on the Mt. Baker-Snoqualmie National Forest and/or within mitigation buffers zones. Only herbicides currently on the BPA approved list are to be applied in all others areas.

Vegetation will be removed using manual, mechanical, and chemical methods, see checklist for treatment zones.

Debris will either be disposed on-site or trucked off-site using either chip, lop and scatter, or mulch techniques as described in Section 5 of the attached checklists.

5. Determine re-vegetation methods, if necessary.

Re-vegetation is not planned for this project. However, if soil disturbance occurs during the project, the area will be reseeded.

6. Determine monitoring needs.

The project area will be inspected during treatment. In addition, it will be reviewed during routine patrols by the line crew and within one year by the NRS.

7. Prepare appropriate environmental documentation.

Findings: This Supplement Analysis finds that 1) the proposed actions are substantially consistent with the Transmission System Vegetation Management Program FEIS (DOE/EIS-0285) and ROD, and; 2) there are no new circumstances or information relevant to environmental concerns and bearing on the proposed actions or their impacts.

This Supplement Analysis also finds that with the mitigation measures as mentioned above that the proposed actions will not affect threatened or endangered species. Therefore, no further NEPA or ESA documentation is required.

/s/ Mark Martin
Mark Martin
Environmental Protection Specialist

CONCUR*/s/ Thomas C. McKinney* DATE:08/15/2003
Thomas C. McKinney
NEPA Compliance Officer

Attachment

cc:
L. Croff – KEC-4
T. McKinney – KEC-4
J. Meyer – KEP-4
E. Stratton – KEP-PSB2
M. Martin – KEPR/COVINGTON
P. Key – LC-7
J. Hilliard Creecy – T-DITT2
D. Hollen – TF/DOB-1
L. Alvarez – TFN/SNOHOMISH
A. De La Cruz – TFN/SNOHOMISH
C. Pursiful – TFNF/Covington
Environmental File – KEC-4
Official File – KEP (EQ-14)

Mmartin:mm:4722:8/12/2003 (KEP-KEPR/COVINGTON-W:\EP\2002 & 2003 FILES\EQ\EQ-14\FEIS-0285-SA-170-RR_MM90_113.doc)

Vegetation Management Checklist

Rocky Reach – Maple Valley No.1
90/3 to 113/3 mile

Prepared By: **Don Atkinson**
Natural Resource Specialist

1. IDENTIFY FACILITY AND THE VEGETATION MANAGEMENT NEED

1.1 Describe Right-of-way.

Corridor Name	Corridor Length & kV	Easement width	Miles of Treatment
Rocky Reach – Maple Valley No. 1	90/3 to 113/3 500kv	150’ to 300’	Approx. 24 miles

Rights-of-way
Access Roads
Danger Trees
Microwave Beam Paths

1.2 Describe the vegetation needing management.

Vegetation Types:

Western Red Cedar

Douglas fir

Grand fir

Hemlock

Alder

Sitka Alder

Noble fir

Pacific Silver fir

Willows – mid span or where ground to conductor clearance is low

Cottonwoods

Scotchbroom – along access roads and around structures or mid span where ground to conductor clearance is low

Blackberries - along access roads and around structures or mid span where ground to conductor clearance is low

Density: The density is variable through the project and ranges from Low (50 stems or less per acre) to as High (250 + stems per acre).

1.3 List measures you will take to help promote low-growing plant communities. If promoting low-growing plants is not appropriate for this project, explain why. **Promoting Low-Growing Plant Communities**Vegetation that will grow tall will be selectively eliminated *before* it reaches a height or density to begin competing with low-growing species. Desirable low-growing plants will not be disturbed. Only selective vegetation control methods that have little potential to harm non-target vegetation will be used.

Cut-stump or follow-up spot herbicide treatments on species that re-sprout will be carried out to ensure that the roots are killed (follow-up treatment may take place during the next growing season). Herbicides will not be applied using high volume methods to ensure that non-target species are not treated.

1.4 Describe overall management scheme/schedule.

Description of the Proposed Action: The project consists of clearing unwanted vegetation within and/or adjacent to the right-of-way, around structures, and along access roads that may impede the operation and maintenance of the subject transmission line. All work will be in accordance with the National Electrical Safety Code and BPA standards. It is the goal of this project to remove the tall growing vegetation that is currently or will soon be a hazard to the transmission line. The overall long-term goal is to develop low-growing plant communities within the right-of-way. The current action consists of 4 primary treatment zones:

Right-Of-Way – The total project area consists of approximately 426.2 acres. It is estimated that approximately 426.2 acres of the project area will be cut.

Access Road Clearing – Approximately 24 miles of access roads will be cleared.

Transmission Structures – Approximately 105 tower sites will be treated.

Danger Trees (off right-of-way): – All off-right-of-way trees (danger trees) that are marked as potentially unstable, or trees that are identified during the project, that would fall within the minimum approach distance (MAD) or into the safety zone of the power line, will be cut as part of this project. As site conditions allow danger trees may be treated with herbicides to prevent re-sprouting.

Maintenance will include treatments to manage the target vegetation. Maintenance activities in the ROW could occur every year for the first Maintenance Cycle. Normally, the vegetation would be treated every 3 to 4 years. Three general control methods are being considered. They can be used individually or in combination to control vegetation including noxious weeds. The project prescription cut sheet documents exactly which treatment is proposed on a site-specific location.

Manual methods

Mechanical methods

Chemical methods

Manual Control Methods – are the control/management of vegetation by pulling or cutting with hand tools including the following techniques:

Pulling - Physically pulling vegetation from the soil.

Cutting - using shears, clippers, chainsaws, brush saws and axes to sever the above ground vegetation (including topping, pruning and side -trimming). The most common cutting prescription is "cut lop and scatter". This is defined as cutting the vegetation from the stump, lopping or cutting the limbs from it to ensure contact with the ground, and hand scattering the cut limbs to avoid concentrations of debris.

Girdling – cutting a ring completely around the trunk of the tree, sufficiently deep into the cambium layer to kill the tree, but leave it standing.

Mechanical Control Methods – are the control/management of vegetation by cutting it with mowing type equipment, mounted on rubber-tired or track-type tractors, including the following types of equipment:

Mowers with rotary heads or rotating drums mounted on rubber tired or track-type tractors (track hoe).

Feller Bunchers, track-mounted machines that grab the trees, cut them at the base, remove branches, cut to length, and then move them to a desired location. The feller buncher could be used during the removal of C-Trees (large trees within the right-of-way) or Danger Trees off the right of way.

Chemical Methods - include spot treatment (stump or stubble treatment, basal treatment, and/or spot foliar), or localized treatments (including broadcast application and cut stubble treatments with Garlon 4 to ensure that the roots are killed preventing new sprouts and selectively eliminating vegetation that prevents access to the power lines. If we are unable to treat the stumps during the project, we will wait until the next growing season and do a localized foliar treatment. In areas where the trees are less than 6ft. tall and the density is light we may do a localized basal treatment.

Critical Design Elements

Streams and Wetlands

Buffer zones have been established for all aquatic resources as follows:

For T&E streams a 400-foot (on each side of stream) no herbicide buffer.

For non T&E streams and wetlands a 100-foot (on each side) no herbicide buffer.

For other water resource buffers (springs, well and irrigation) see section 3.2

On slopes less than 20% there will be no disturbance within 35ft. of the stream or wetland.

On slopes greater than 20% there will be no disturbance within the identified buffer.

Threatened and Endangered Species Areas:

Aquatic Species

For T&E fish streams a 400-foot (on each side of stream) no herbicide buffer.

No mechanical treatments within the buffer except along access roads and around structures

Spotted Owl

During the nesting season, from March 1 to July 1, no danger trees within ¼ mile of known northern spotted owl nest sites will be removed. If any owl nesting activity is found the NRS will contact the Regional Environmental Specialist and a determination will be made regarding formal consultation with the USFWS.

Herbicides will not be used in spotted owl critical habitat

Marbled Murrelet

During the core-breeding season of marbled murrelets, from April 1 – August 5, activities that produce noise above ambient levels will not occur within ¼ mile of potential suitable habitat of the marbled murrelet.

During the late breeding season, from August 6 – September 15, activities utilizing motorized equipment within ¼ mile of marbled murrelet habitat will not occur within two hours after sunrise or within two hours before sunset.

Herbicides will not be used in suitable marbled murrelet habitat

Steep Slopes and Spanned Canyons

Do not use ground disturbing mechanical equipment on slopes over 20%.

Perform mechanical clearing when the ground is dry enough to sustain heavy equipment.

Areas with the potential for erosion may be re-seeded with low-growing vegetation or grasses if there is limited vegetation for re-establishment of the site.

Any areas in the corridor with greater than 38.1 m (125 ft.) vertical distance between the ground surface and transmission lines will have selective tree removal. Individual trees that could encroach into the conductor danger zone will be identified and selected for removal in each management entry

Specific Measures to be implemented during the project:

When chainsaws are used, conifers will be cut below the lowest live limb to eliminate continued growth of the lateral branches.

Control all tree and brush species within about 30 ft. of transmission structures. Cut stumps are not to be taller than 2 – 4 inches.

Pull all debris and slash out of the 30-ft. area around transmission structures.

Access Road Clearing Requirements: - (there are approximately 41 miles of machine and hand cutting)

Control all vegetation except grasses, to enable safe driving.

The access road is to be 14 to 25 ft. wide with a 15-ft.- high clearance. Limbs should not hang down into the access road.

Cut stumps are not to be taller than 2 – 4 inches in the roadbed.

Cut stumps horizontal to the ground to prevent personal injuries and tire puncture.

Trim limbs back as flush to the trunk as possible when trees are rooted outside of the access road.

Pull all debris back from the access road as prescribed. Cut stumps horizontal to the ground to prevent personal injuries and tire puncture.

Areas may be re-seeded with low-growing vegetation or grasses if there is limited vegetation for re-establishment of the site.

As flush to the trunk as possible when trees are rooted outside of the Areas where vegetation densities are high, or that have high densities of scotchbroom and /or blackberries will be mowed using a track mounted mowing head.

All access roads and structure sites will also be mowed and chemically treated off-National Forest Lands.

Trim limbs back access road.

Pull all debris back from the access road as prescribed

Subsequent entries – Follow-up/re-treatment, within the right-of-way, around structure sites, and along access roads, is planned within the next growing season. This will be done with herbicides in areas that were not treated due to adverse weather conditions, there was not a good kill, or that were not treated in the initial entry.

Future cycles – This area is being managed on a 3 to 5 year maintenance free cycle for brush and danger trees. During routine patrol, the right-of-way will be examined for tall growing trees on the right-of-way and danger trees (DT's) off the right-of-way. The overall vegetation management scheme will be to cut and treat all encumbering vegetation on the right-of-way using a combination of manual, mechanical and herbicide treatments as outlined in the project description every 3 to 5 years.

2. IDENTIFY SURROUNDING LAND USE AND LANDOWNERS/MANAGERS

2.1 List the types of landowners and land uses along your corridor.

Landowners/Managers/UsesList of Landowners/Managers/UsesMt. Baker/Snoqualmie National Forest, Washington State Dept. of Natural Resources, Weyerhauser Timber and private landowners (rural residential, farms, grazing land).

2.2 Describe method for notifying right-of-way landowners and requesting information (i.e., door hanger, letter, phone call, e-mail, and/or meeting). Develop landowner mail list, if appropriate.

Letters or Personal contact by BPA and/or the Contractor along with door hangers will be used to notify the landowners. This will be done before and during the project. The Prescription/Cut Sheets will be modified as needed based on any input received during the project.

2.3 List the specific land owner/land use measures — determined from the handbook or through your consultations with the entities — that will be applied.

Within all Forest Service lands **no** herbicides will be used.

2.4 Review any existing landowner agreements (e.g. tree/brush Permits or Agreements). List in table above any provisions that need to be followed and where they are located.

Rocky Reach – Maple Valley No. 1 (See attached maps for locations)

Span		Landowner/use	Specific measures to be applied
From	To		
104/2 + 1980	105/1 + 590	Tree & Brush Agreement Highline School District	Landowner will maintain
105/3 + 450	105/3 + 780	Tree & Brush Agreement	Landowner will maintain
105/4 + 530	105/4 + 743	Tree & Brush Agreement	Landowner will maintain
105/5 + 1000	106/1 + 540	Tree & Brush Agreement	Landowner will maintain
106/2 + 80	106/2 + 1040	Water Supply –	No Spray Area, See Plan & Profile for location

2.5 List any known casual informal use of the right-of-way by non-owner publics. List any constraints or measure's to take due to the informal use.

The Asahel Curtis and Annette Lake Trail follow along the ROW, between structures 91/2 and 91/3. The ROW within the Mt. Baker/Snoqualmie National Forest is also used for dispersed recreation, camping, ORVing, and hiking.

2.6 List other potentially affected people, agencies, or tribes (that are not landowners/managers) that need to be notified or coordinated with. Describe method of notification and coordination.

The Yakima, Snoqualmie, and Muckleshoot Tribes, were sent letters on 3/14/03.

3. IDENTIFY NATURAL RESOURCES

3.1 List any water resources (streams, rivers, lakes, wetlands) that may be impacted by vegetation control activities. For each water body describe the control methods and requirements or mitigation measures that will be used.

Rocky Reach – Maple Valley No. 1 (See attached maps for locations)

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
90/3 + 670	90/5 + 540	4 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	200 ft. each side	State & Pvt. Lands
90/5 +540	90/5 +690	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
91/2 + 760	91/2 + 1240	Humpback Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	State & Pvt. Lands

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
91/3 + 50	91/4 + 280	3 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
91/4 + 400	91/5 + 120	4 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
92/1 + 370	92/1 + 1040	3 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
92/2 + 00	92/2 + 810	3 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
92/3 + 40	92/3 + 440	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
92/3 + 610	92/4 + 310	3 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
92/4 + 470	92/4 + 870	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
92/4 + 1100	93/1 + 110	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
93/2 + 500	93/2 + 900	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
93/5 + 270	93/5 + 1010	Hansen Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
94/2 + 60	94/2 + 320	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
94/2 + 320	94/3 + 00	8 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	200 ft. each side	Private Lands
94/3 + 270	94/4 + 200	4 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	200 ft. each side	Private Lands
94/3 + 270	95/1 + 50	3 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
95/1 + 390	95/1 + 800	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
95/2 + 690	95/3 + 820	3 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
95/4 + 40	95/4 + 1470	1 Creek & 5 Springs - Unnamed	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
95/5 + 260	96/1 + 260	5 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
96/1 + 830	96/1 + 1410	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
96/1 + 1870	96/2 + 370	Rock Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
96/3 + 460	97/1 + 1130	6 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
97/2 + 900	97/2 + 1300	Alice Creek	No	Select Tree Cut	None	N/A	FS - No Herbicide	Alice Cr. Trail
97/4 + 90	97/4 + 1010	2 Unnamed Creeks	No	Cut Lop & Scatter	None	N/A	200 ft. each side	Private Lands
97/4 + 1370	97/4 + 1810	Spring	No	Cut Lop & Scatter	None	N/A	200 ft. each side	Private Lands
99/2 + 1030	99/3 + 500	Wetland & Creek	No	Cut Lop & Scatter	None	N/A	FS - No Herbicide	
99/3 + 500	99/3 +590	Creek Buffer	No	Cut Lop & Scatter	None	N/A	200 ft. each side	Private Lands
99/4 + 250	99/4 + 900	South Fork Snoqualmie River	No	Cut Lop & Scatter	None	N/A	200 ft. each side	State & Pvt Lands
100/1 + 00	100/1 + 1190	5 Unnamed Creeks & Pond	No	Cut Lop & Scatter	None	N/A	200 ft. each side	State & Pvt Lands
100/2 + 510	100/2 + 860	Creek & Spring	No	Cut Lop & Scatter	None	N/A	200 ft. each side	State & Pvt Lands
100/3 + 960	100/3 + 1400	Unnamed Creek	No	Cut Lop & Scatter	None	N/A	200 ft. each side	State & Pvt Lands
100/4 + 320	100/4 + 900	Unnamed Cr. & Pond	No	Select Tree Cut	None	N/A	200 ft. each side	State & Pvt Lands
101/2 + 140	101/2 + 500	Unnamed Creek	No	Select Tree Cut	None	N/A	200 ft. each side	State & Pvt Lands
101/2 + 500	101/2 + 570	Creek Buffer	No	Cut Lop & Scatter	None	N/A	200 ft. each side	State & Pvt Lands
101/2 +	101/2 +	3 Unnamed	No	Select	None	N/A	200 ft.	State &

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
670	1660	Creeks		Tree Cut			each side	Pvt Lands
101/4 + 300	101/4 + 500	Creek Buffer	No	Cut Lop & Scatter	None	N/A	200 ft. each side	State & Pvt Lands
101/4 + 500	101/4 + 1280	3 Unnamed Creeks	No	Select Tree Cut	None	N/A	200 ft. each side	State & Pvt Lands
104/1 + 660	104/2 + 1780	South Fork Snoqualmie River & Wetland	No	Cut Lop & Scatter	None	N/A	200 ft. each side	State & Pvt Lands
104/4 + 60	104/4 + 940	Wetland & 1 Unnamed Creek	No	Cut Lop & Scatter	None	N/A	200 ft. from Cr.& 100 ft. from Wetland	State & Pvt Lands
105/3 + 1000	105/4 + 80	Creek	No	Cut Lop & Scatter	None	N/A	200 ft. each side	State & Pvt Lands
105/5 + 990	105/5 + 1210	Well	No	Cut Lop & Scatter	None	N/A	200 ft. each side	State & Pvt Lands
106/2 + 80	106/2 + 1040	Wetland	No	Cut Lop & Scatter	None	N/A	200 ft. each side	State & Pvt Lands
106/3 + 150	106/3 + 620	Creek	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
107/3 + 870	107/3 + 1550	Creeks	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
107/3 + 1880	107/3 + 2420	Creek	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
108/1 + 100	108/1 + 500	Creek	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
108/2 + 140	108/2 + 550	Creek	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
108/3 + 130	108/5 + 440	Creeks	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
108/5 + 970	108/6 + 360	Creek	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
108/6 + 670	109/1 + 460	Creeks	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands

Span		Waterbody Type	T&E Species?	Cut Method	Herbicide Product	Herbicide Application Technique	Buffer Width (Feet)	Other
From	To							
109/1 + 650	109/2 + 450	Creeks	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
109/2 + 570	109/2 + 1500	Creek	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
109/3 + 450	109/4 + 50	Creek	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
109/4 + 260	109/4 + 920	Creeks	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
109/5 + 260	110/2 + 70	Creeks	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
110/2 + 230	110/3 + 970	Creeks	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
110/3 + 1280	110/3 + 1700	Creek	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
111/2 + 630	111/4 + 470	Creeks & Wetland	No	Riparian	None	N/A	200 ft. each side	State & Pvt Lands
112/3 + 250	112/4 + 640	Creeks	No	Riparian	None	See Below	200 ft. each side	State & Pvt Lands
112/4 + 850	112/5 + 550	Creeks	No	Riparian	None	See below	200 ft. each side	State & Pvt Lands
113/2 + 280	113/2 + 1030	Wetland & Creek	No	Riparian	See below	See below	200 ft. each side	State & Pvt Lands

3.2 If planning to use herbicides, list locations of any known irrigation source, wells, or springs (landowners maybe able to provide this info if requested).

Rocky Reach – Maple Valley No. 1 (See attached maps for locations)

Span		Wells, Irrigation or Springs	Treatment Zone	Buffer
From	To			
95/4 + 40	95/4 + 1470	Springs	Hand cutting Methods only, no herbicides allowed within the buffer.	100 ft. radius around spring
97/4 + 1370	97/4 + 1810	Spring	Hand cutting Methods only, no herbicides allowed within the buffer	100 ft. radius around spring
100/2 + 510	100/2 + 860	Spring	Hand cutting Methods only, no herbicides allowed within the buffer	100 ft. radius around spring
105/5 + 990	105/5 + 1210	Well	Hand cutting Methods only, no herbicides allowed within the buffer	100 ft. radius around well head

3.3 List below the areas that have Threatened or Endangered Plant or Animal Species and the name of the species, and any special measures that need to be taken due to their presence. Attach any BAs, T&E maps, or letters from US Fish and Wildlife.

Rocky Reach – Maple Valley No. 1

Span		Threatened or Endangered Plant or Animal Species	Method/mitigation measures
To	From		
90/3 + 00	92/3 + 00	Spotted Owl	During the nesting season, from March 1 to July 1, no danger trees within ¼ mile of known northern spotted owl nest sites will be removed. If any owl nesting activity is found the NRS will conduct formal consultation with the USFWS.
90/3 + 00	92/4 + 700	Marbled Murrelet	During the core-breeding season of marbled murrelets, from April 1 – August 5, activities that produce noise above ambient levels will not occur within ¼ mile of potential suitable habitat of the marbled murrelet. During the late breeding season, from August 6 – September 15, activities utilizing motorized equipment within ¼ mile of marbled murrelet habitat will not occur within two hours after sunrise or within two hours before sunset.

Span		Threatened or Endangered Plant or Animal Species	Method/mitigation measures
To	**From**		
96/1	99/1	Marbled Murrelet	During the core-breeding season of marbled murrelets, from April 1 – August 5, activities that produce noise above ambient levels will not occur within ¼ mile of potential suitable habitat of the marbled murrelet. During the late breeding season, from August 6 – September 15, activities utilizing motorized equipment within ¼ mile of marbled murrelet habitat will not occur within two hours after sunrise or within two hours before sunset.

3.4 List any other measures to be taken for enhancing wildlife habitat or protecting species.

None mapped. Also, any areas in the corridor with ground to conductor clearances greater than 38.1 m (125 ft.) vertical distance will be select tree cut. This will help provide shade for salmon and other fish.

3.5 List any visually sensitive areas and the measures to be taken at these areas.

The project is located within the I-90 corridor, which has a variety of objectives: partial retention, scenic, general forest, late success ional reserves. All the methods identified in section 1.1 above are appropriate for controlling vegetation in visually sensitive areas. Other visually sensitive areas also include the Alice Creek Trail (97/2 +1180) and the Annett Lake Trail between 91/2 and 91/3.

3.6 List areas with cultural resources and the measures to be taken in those areas.

At this time, there are none known within the right-of-way. Letters have been sent to the following Tribes:

- Yakima
- Snoqualmie
- Muckleshoot

The proposed project does not disturbed soils within the project area; the project consists of hand brush cutting and the mowing of access and structure sites. If any cultural resource were inadvertently unearthed or identified during the project, the project would be immediately stopped and the proper authorities notified.

3.7 List areas with steep slopes or potential erosion areas and the measure and methods to be applied in those areas.

Steep/Unstable SlopesRocky Reach – Maple Valley No. 1 (See attached maps for locations)

Span		Describe sensitivity	Method/mitigation measures
From	To		
90/3 + 00	90/4 + 904	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
91/2 + 00	91/2 + 1363	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
91/5 + 120	91/5 + 1139	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
95/5 + 810	96/1 + 1150	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
97/1 + 00	97/1 + 1809	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
97/2 + 750	98/1 + 770	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
98/4 + 00	99/2 + 1150	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
99/4 + 900	99/4 + 1154	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
100/3 + 800	100/4 + 470	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
100/4 + 990	101/2 + 120	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
101/2 + 500	101/2 + 1864	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
101/4 + 00	101/4 + 500	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
101/4 + 1150	101/4 + 1630	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
103/1 + 00	103/3 + 898	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.

Span		Describe sensitivity	Method/mitigation measures
From	To		
104/2 + 1580	104/2 + 2152	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
104/4 + 110	105/1 + 710	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
105/3 + 00	105/3 + 1325	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
107/3 + 00	107/4 + 450	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
108/6 + 00	109/3 + 824	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
110/2 + 00	110/5 + 874	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
111/2 + 00	111/3 + 1767	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.
112/2 + 00	112/4 + 850	Steep slope	Slopes > 20 % No mechanical treatment on Right of Way. Garlon 4: Cut Stump or Basal, except within riparian buffer.

3.8 List areas of spanned canyons and the type of cutting needed.

Rocky Reach – Maple Valley No. 1 (See attached maps for locations)

Span		Describe sensitivity	Method/mitigation measures
From	To		
97/2 + 850	97/2 +1360	Select Tree Cut	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
100/4 + 470	100/4 + 990	Select Tree Cut	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
101/2 + 120	101/2 + 500	Select Tree Cut	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.
101/4 + 500	101/4 + 1150	Select Tree Cut	Select Tree Cut and/or top selected trees, and herbicides will not be used within these areas.

4. DETERMINE VEGETATION CONTROL METHODS

4.1 List Methods that will be used in areas not previously addressed in steps above.

ManualMechanicalBiologicaland Herbicides**MANUAL:** Manual control methods include the following: cutting with shears, clippers, or chainsaws; and girdling by cutting a ring around the tree. When chainsaws are used cut conifers below the lowest live limb to eliminate continued growth of the lateral branches and cut all stumps flat where possible.

MECHANICAL: Mechanical methods include the use of brush mowers and feller bunchers. Ground-disturbing mechanical equipment will not be used on slopes over 20% or in riparian areas (Refer to 3.1). Work will be done when the ground is sufficiently dry enough to sustain heavy equipment and minimize excessive rutting.

HERBICIDES: The herbicide treatments prescribed for the project area are spot stump treatment, localized basal treatment, and / or localized foliar treatment. If we are unable to treat the stumps during the project, we will wait until the next growing season and do a localized foliar treatment. In areas where the trees are less than 6ft. tall and the density is light we may do a localized basal treatment.

NOTE: Herbicides will not be used on National Forest lands.

See the RIGHT-OF-WAY MAINTENANCE CONTROL PRESCRIPTION (cut sheet) for the location of the Control Methods along the ROW.

5. DETERMINE DEBRIS DISPOSAL AND REVEGETATION

5.1 Describe the debris disposal methods to be used and any special considerations.

Mulching/Mowing – This will be done on access roads and around structure sites.

Lope and Scatter – These areas are identified in the VEGETATION CONTROL PRESCRIPTION as Cut, Lope, and Scatter.

Some areas may require that the brush be chipped. These areas are identified in the VEGETATION CONTROL PRESCRIPTION as cut and treat as needed, and will depend on the requirements of the landowners.

5.2 List areas of reseeding or replanting (those areas not already described in steps 1, 2, or 3).

Not planned at this time. However, if soil disturbance occurs during the project the area will be reseeded.

5.3 If not using native seed/plants, describe why.

Native seed will be considered in all mixes. Introduced species may be more competitive against invading tree species and protecting against erosion.

5.4 Describe timing and any follow-up that will need to take place to ensure germination/success of seeding/planting.

Not planned at this time. However, if reseeding is necessary it will take place in the fall just before the fall rains.

6. DETERMINE MONITORING NEEDS

6.1 Describe the follow-up/monitoring cycle that will be used to evaluate the effectiveness of the vegetation control methods used.

The project area will be inspected during treatment. In addition, it will be reviewed during routine patrols by the line crew and within one year by the NRS.

6.2 Describe any follow-up or monitoring needed to determine if mitigation measures were effective.

Will review during line patrol by the line crew and within one year by the NRS.

7. PREPARE APPROPRIATE ENVIRONMENTAL DOCUMENTATION

7.1 Describe any potential project impacts or project work that are different than those disclosed in the Transmission System Vegetation Management Program EIS. Describe how those differences impact natural resources and if the differences are "substantial".

The Effects of this project are expected to be the same or less than those described in the Vegetation Management EIS.

7.2 Is there a need for additional NEPA documentation (i.e. Forest Service requirement, Record of Decision, supplemental EIS)? If so, attach.

Additional information may be required on Cultural Resources, and Forest Service Listed plant species which are not on the Endangered Species List.(ESL)